

WHAT IS CLAIMED IS:

1. A composition comprising:
a mixture consisting essentially of (1) a dried hydrophobic sol-gel functionalized with at least one arsenic-removing constituent and (2) a solid support structure.
2. The composition recited in claim 1, wherein said mixture is molded, granular, or powdered.
3. The composition recited in claim 1, wherein said dried hydrophobic sol-gel is an aerogel or xerogel.
4. The composition recited in claim 1, wherein the dried hydrophobic sol-gel includes a quantity of manganese and a quantity of iron.
5. The composition recited in claim 1, wherein the solid support structure is granulated activated carbon (GAC).
6. The composition recited in claim 5, wherein the GAC is acid washed.
7. A composition comprising:
a predetermined amount of a hydrophobic aerogel functionalized with at least one arsenic-removing constituent; and

a predetermined amount of granulated activated carbon, wherein said composition is capable of removing arsenic contaminants from aqueous media.

8. A method comprising:

providing a dried hydrophobic sol-gel on a solid support structure, wherein said dried hydrophobic sol-gel is functionalized with at least one arsenic-removing constituent; and

contacting said dried hydrophobic sol-gel on a solid support structure to an aqueous sample.

9. The method recited in claim 8, further comprising:

analyzing said dried hydrophobic sol-gel on a solid support structure after contacting it with said aqueous sample in order to detect the presence and/or concentration of arsenic.

10. The method recited in claim 8, wherein said dried hydrophobic sol-gel is a hydrophobic aerogel or hydrophobic xerogel.

11. The method recited in claim 8, wherein the dried hydrophobic sol-gel includes a quantity of manganese and a quantity of iron.

12. The method recited in claim 8, wherein the solid support structure is granulated activated carbon (GAC).

13. The method recited in claim 12, wherein the GAC is acid washed.